



Ceramics

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Throwing Up: *a self-guided study in clay bodies*

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Based on the demands of her upcoming thesis project, Studio Arts major Thea Keene delves into the reasoning and technicalities of her research in clay bodies. Keene explains the dilemma caused by the range of firing temperatures for different types of clay, and how it influences the decision to experiment with new ones. Her research includes the tedious process of mixing and curing the clay, and a bit on the physics of throwing on the wheel. After testing three low-fire clay mixtures, Keene ultimately decides to use an earthenware terracotta for its color and maneuverability on the wheel.

Introduction

Perhaps like most people, when I think about art, I imagine flinging paint onto a canvas, sketching furiously until the hand cramps, or awkwardly headless bronze busts standing in a room with four white walls. As a younger artist, I never considered the majority of what I do as research. Research was for people in lab coats with little glass vials and a greater understanding of microscopic forces that keep our universe rocketing through space and time. In art, though, there is so much happening behind the scenes that gets forgotten about when examining the final piece. All the trial and error, testing designs, hours of critique, and even some math equations scrawled in the sketchbook all equate to our form of artistic research.

When I stop and think about it, though, research is exactly what I'm doing in my final semester in the art program at MSU. It's a bit of a rough transition, spending three years in classes where all the projects are prompted, to suddenly having to know what to make in your independent study with barely any guidelines. Yet the self-guided research I'm conducting now feels like the truest form of demonstrating what actually interests me as an artist.

The Project

For my thesis capstone project, I'm examining Turkish and Persian pottery to inspire a serving ware set designed specifically for a Turkish dumpling dish. Pottery from this region is very colorful and decorated with animal and geometric motifs, design elements that I'm interested in incorporated into the aesthetic of the final piece.

Traditional pieces from the eastern Mediterranean often use a red earthenware as the main clay body, with white slip and colors applied on top (Denny, 1980). To lean more into the customary practices of this region, part of the project will be transitioning to a red or white low-fire clay to accompany hand-painted details.

My methodology will be throwing on the wheel, making duplicates with press molds, and various surface decoration techniques, including underglazing, glazing, slip trailing, stenciling, and inlay with wax resist.

The Problem

The MSU ceramics program has a lot of amenities at our disposal, including five different types of kilns, a glaze and plaster mixing room, and lots of workspace. When walking into Haynes 108, it's easy to see why ceramics is the most popular class to take, and why so many of those students gravitate towards concentrating in the medium. With so many materials available, it makes sense to spend one's time experimenting with clay in full.

The default clay used in the studio is Wally's stoneware, a high-fire clay that turns a muddy grey by the final firing and is extremely strong and reliable. Ceramicists use the "Cone Firing Scale" to describe the temperature at which a clay is fired (Figure 1). Being a "high-fire" clay means it gets fired in the kiln up to cone 10, or 2381 degrees Fahrenheit, whereas low-fire clays like terracotta earthenware mature when they reach cone 04, about 1940 degrees Fahrenheit. When the kiln reaches cone 4-6, 1186 - 1222 degrees F, however, commercial underglazes start to burn

out, losing their brilliance and taking on undesirable burned qualities, as can be seen in Figure 2 (Bellevue, n.d.). Besides being a more traditional clay for the project proposed, on a technical level it makes sense to use a low-fire clay since the lower temperature preserves the underglaze colors.

When mixing clay, there are many different materials that can be added to make the clay more suitable to the artist's needs. In my case, I'm particularly interested in a clay body that is readily available to mix in the lab, throws nicely on the wheel, and can be rolled into a slab for press molding. The clay should therefore be fairly plastic, meaning it is flexible to changing shape, and strong enough to make larger, taller pieces. Adding materials like talc, grog, or sand are good options to achieve these desired qualities (Scott, 2006).

The Process

After selecting what kind of clay body to make, the first step is to mix all the materials. The clays I chose to mix were redart terracotta and a 50/50 mix of ball clay and talc. I mixed three clay bodies; the terracotta, the white talc, and a third terracotta with extra talc. After mixing the dry materials and covering the powders in water, the clay was mixed into a slurry,

about the consistency of thick cake batter. The slurry was poured through a mesh screen to smooth out the inconsistencies, a process known as sieving. Then, it went into plaster bats to cure over the course of three days, where the plaster would absorb some of the water content while the rest evaporated off until the clay was malleable. At this point it has the consistency of Play Dough and can be kneaded, or wedged, into a ball to be thrown on the wheel or rolled into a slab.

During my first time working with these clays, I threw them on the wheel since that will be the crux of my project. Throwing is the process of using centrifugal force to manipulate the clay material into a new form, and it's a technique that is about as old as ceramics itself. As the potter, my job is to center the clay on the wheel, spinning at about 300 rpm, using compression, tension and shear forces to align the clay particles in the same direction (Washington, 2020). This process of centering clay is outlined in Figure 3.

Among the three clay bodies I used, the two terracottas were the easiest to work with on the wheel. The white talc mix struggled to center itself on the wheel, causing a bit of warping, and wasn't as smooth of a mixture, leaving air bubbles and imperfections in the clay despite sieving it earlier on. The terracottas were stronger and were thrown into more consistent forms.

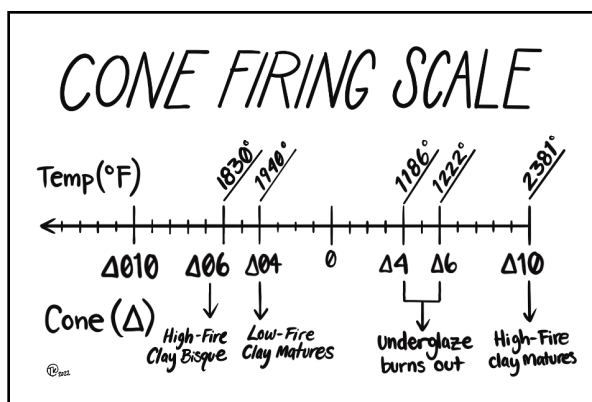


FIGURE 1
Cone firing scale.
Source: Bellevue College. Drawn by Thea Keene.

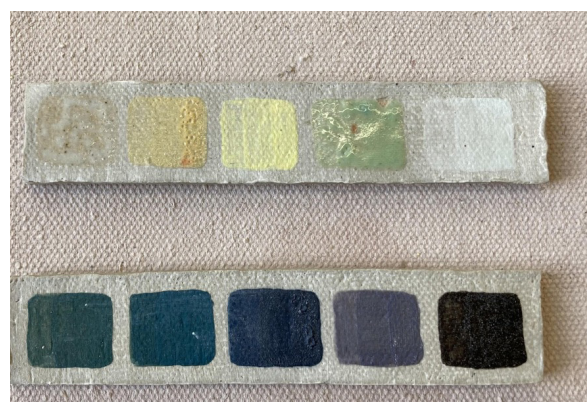


FIGURE 2
Unsuccessful underglaze samples, fired at cone 10.
Top, left to right: red, orange, yellow, lime green, mint green. Bottom, left to right: forest green, teal, royal blue, violet, black. Photo: Thea Keene.



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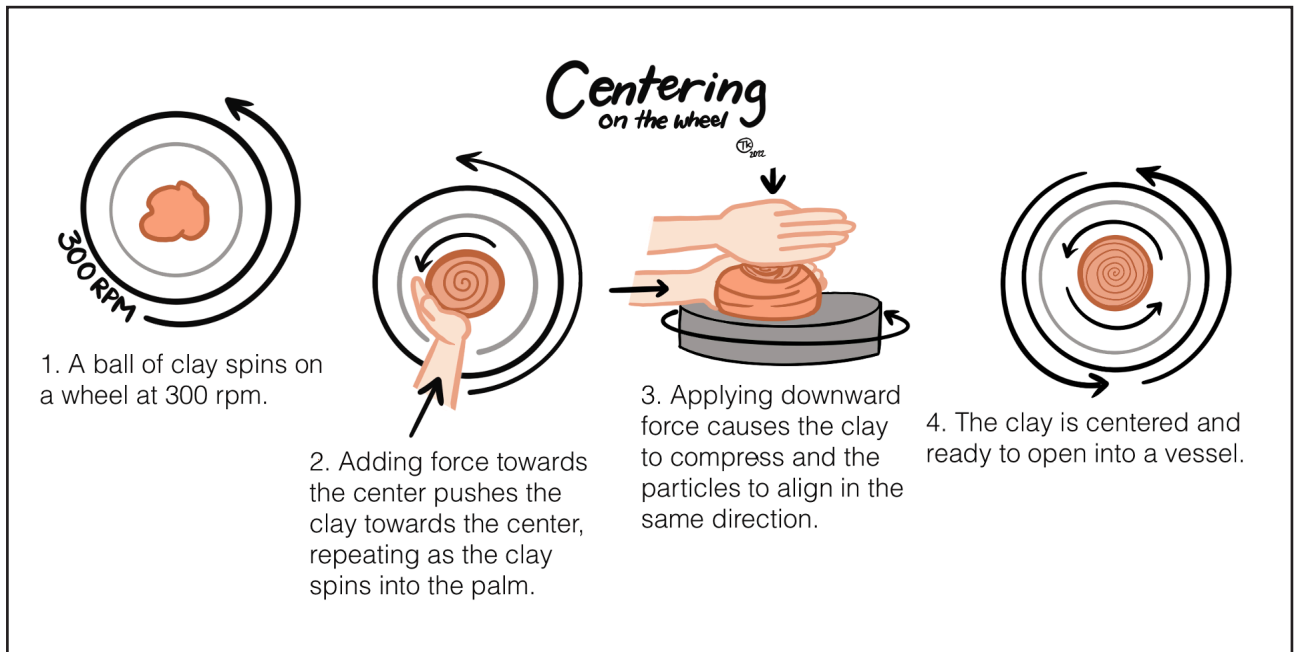


FIGURE 3

A brief demo on centering clay for throwing.

Drawn by Thea Keene.



FIGURE 4

Test Cylinders

From left to right: white talc, red terracotta, and red terracotta with extra talc, all bisqued with white and black slip. Photo: Thea Keene.

As shown in Figure 4, the terracotta cylinders have wider, stronger rims, while the white talc is thin and warped.

Conclusions

For the aesthetic purposes of my final thesis project, I have chosen to use a low-fire clay that allows for underglaze color brilliance and pays homage to the ancient cultures I'm taking inspiration from. Additionally, finding a clay body that performed well while throwing was extremely, if not more, important to this research. In order to use a low-fire clay, multiple clays had to be tested to determine a clay body that best suits my needs for the project. Ultimately, I have chosen to use the redart terracotta mixture, since it demonstrates the most ideal qualities of a clay body in color, cultural context, and maneuverability on the wheel.

The next phase of experimentation includes underglazing and glazing, which will give the pieces colorful accents and a shiny, glossy finish. Fine-tuning a clear low-fire glaze will most likely be the next leap of research to conduct, as well as continuing to throw larger, wider pieces with the chosen clay body.

Thea's BFA thesis show will be held April 27 - May 13, 2022, in the Helen E. Copeland Gallery, on the second floor of Haynes Hall. The reception will be held May 12, 2022, 5-7:00 pm.

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Thea Keene is a senior at MSU studying Studio Arts with a concentration in ceramics. Originally from Missoula, Montana, her passion for art as therapy began at the community arts center in her hometown. For Thea, ceramics is a form of tactile communication, and can be the catalyst of some of our most important conversations. (Photo: Ahnika Berg)